

S | X | M™

Mini Futures Contracts  
on the S&P/TSX 60™ Index

## Portfolio Hedging Using SXM Futures

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# Investor Outlook

- Investor holds a diversified portfolio.
- Is concerned about short-term risk.
- Is looking at reducing exposure to the stock market.

# Obstacles

- If investor sells:
  - Forego dividend income.
  - Incur transaction costs in selling.
  - Tax implications in selling.

# Hedging Alternative

- Use SXM futures as a hedge for portfolios with a strong correlation to the S&P/TSX 60 Index.
- Hedging allows investors to maintain all existing positions and with no tax disposition.
- The investor would sell (short) SXM contracts to offset the risk.

# Using SXM for Hedging

- Investor's Canadian equity exposure: \$500,000.00
- Investor is looking at reducing market exposure by 50% or \$250,000.00.
- S&P/TSX 60 is trading at 790.00.

# Adjusting the Hedge for Beta

- Beta reflects the variance in the portfolio value in comparison to the overall market:
  - Beta = 1  
Portfolio moves with the market.
  - Beta < 1  
Portfolio is less volatile than the market.
  - Beta > 1  
Portfolio is more volatile than the market.

# Calculating the Beta

Company	Weight in Portfolio	Beta
Royal Bank RY	0.10	1.31
Postash Corp POT	0.10	1.2
Encana ECA	0.10	1.1
Barrick Gold ABX	0.10	.6
Manulife Financial MFC	0.10	2.18
Canadian Natural Resources CNQ	0.10	1.78
Goldcorp Inc GG	0.10	.69
Toronto-Dominion Bank TD	0.10	1.46
Bank of Nova Scotia BNS	0.10	1.35
Research In Motion RIM	0.10	2
<b>Average Beta</b>	<b>1.00</b>	<b>1.36</b>

# Calculating the Hedge

=  
Portfolio Exposure x Beta  
Value of Futures Contract

# Calculating the Hedge

$$= \frac{\$250,000.00 \times 1.36}{790 \times \$50.00}$$

$$= \frac{\$340,000.00}{\$39,500.00}$$

$$= 8.6075$$

Investor will need to short 8 or 9 contracts to reduce exposure by 50%.

# Portfolio Change

- With the adjustment of beta, SXM futures reduce the exposure by ~50%:

S&P/TSX 60 Value	Portfolio P&L	Short 9 SXM P&L	Net Result
869.00	+68,000.00	-35,550.00	+32,450.00
829.50	+34,000.00	-17,775.00	+16,225.00
<b>790.00</b>	<b>0</b>	<b>0</b>	<b>0</b>
750.50	-34,000.00	+17,775.00	-16,225.00
711.00	-68,000.00	+35,550.00	-32,450.00

# Summary

- Investor reduced exposure to the market without having to close any positions.
- During that time,
  - the investor did not interrupt the dividend stream;
  - incurred minimal transaction costs;
  - no tax disposition of the underlying.

